

Amendments to the Claims

This listing of claims will replace all prior versions, or listings, of claims in the application.

Listing of Claims:

1. (currently amended) A process for measuring surface reflectance $[[(\hat{r})]]$ of an object of interest in a set of image data $[[i]]$ said process comprising the steps of:
 - collect the set of image data $[[i]]$ which contains the surface reflectance of the object of interest as well as additive noise caused by variations in illumination and an atmospheric effects set;
 - make an estimate of the additive noise $[[a]]$ in the set of image data;
 - process the image data in a high pass filter to remove the estimate of additive noise $[[a]]$ from the set of image data $[[i]]$ and getting thereby a processed image set $[[rm]]$;
 - ~~Use~~ use a Discrete Cosign Transform (DCT) on the processed image set to estimate an amount of image signal lost due to the atmospheric effects set ~~est~~ (rm) ;
 - add the estimate of image signal lost to the processed image set to get a sum reflectance estimate; and
 - process the sum reflectance estimate with a multiplicative noise only algorithm to obtain thereby the surface reflectance $[[(\hat{r})]]$ of the object of interest.
2. (currently amended) A process, as defined in claim 1, wherein said collection step is performed using image sensors that detect image data in a form of pixel spectral vectors $[[x]]$ and which output an image $(i)=rm$ where r equals the surface reflectance of the object of interest and m is a multiplicative noise spectrum.
3. (original) A process, as defined in claim 2, wherein there are N channels of pixel spectral vectors $\{x\}$ that are rotated into a $\log m$ principle component (PC) space to produce a rotated ensemble set $\{y\}$.

4. (original) A process, as defined in claim 3, wherein image formation of the object of interest is elicited by performing a Hadamard product of the rotated ensemble set {y}.